

ABSTRACT OF THE DISCLOSURE

An internal combustion engine including an air intake manifold having a rotary
5 valve for regulating air flow within the manifold. The valve comprises a cylindrical shaft
formed of stainless steel and butterfly vanes formed of plastic overmolded onto the
shaft. The composite valve has a natural frequency of about 300 Hz and can resonate
with engine noise. In accordance with the invention, the valve shaft is additionally
provided with one or more sound-absorbing elastomeric dampers, formed preferably of
10 a silicone rubber, that make contact with saddles in the intake manifold for extinguishing
harmonic frequency response of the valve below 660 Hz. Preferably, the plastic
butterfly vanes also are overcoated with the elastomer to further damp harmonic flexure
and wave propagation in the valve.

15